Trust Based Internet of Things (IoT) System

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Abstract

Internet of Things (IoT) is an archetype in which all varieties of objects can have sensing, networking, and processing abilities that allow them to converse with other devices. It permits things, people, and processes to be connected independent of time and location using any network. IoT evolves with the privacy and security concerns of its applications and devices and lacks trust. These issues are yet to be addressed by professionals, academia, and organizations. IoT devices generate a huge amount of data every second, hence, handling these data becomes a major challenge for the organizations. For implementing any application of IoT, privacy, and security concerns have to be considered at each layer of IoT architecture. Usually, there are three layers in an IoT architecture. These layers are the perception layer, network layer, and application layer.

IoT uses protocols like MQTT (Message Queuing Telemetry Transport) for faster and controlled communication and applies in various projects such as smart healthcare, smart home, smart parking, smart weather monitoring and, smart industries. Some ambiguities were identified in this protocol which is yet to be addressed. Traditional methods like cryptography and access control deal with external attacks like privacy breaches and data inconsistency.

Keywords
IoT, Trust, Privacy, Security

Biography

Laxmi Pandit is working as a Research Associate at MDI Gurgaon, India in the area of Operations Management. She earns an MBA degree from ICFAI Business School Hyderabad, ICFAI Foundation for Higher Education University in February 2020 with dual specialization in Operations and Finance. She holds a Bachelor in Electronics and Telecommunication Engineering from Rungta College of Engineering and Technology, Chhattisgarh Swami Vivekanand Technical University, Chhattisgarh in May 2018. She also has an internship experience from Ernst Young, Indian Institute of Management Raipur and Mochiko Shoes Pvt. Ltd. She has co-authored research papers in the area of Internet of Things (IoT) in renowned journals and has also presented her research work at various National and International conferences. She has assisted for the development of Indian Infrastructure Body of Knowledge (InBok) under "National Program and Project Management Policy Framework" by Niti Aayog and Quality Council of India. Her research interests include the Internet of Things, Supply Chain Management and Sustainability.